

Supplementary Information

Table S1. Characteristics of the soil used; sand was used to lower phosphorus and bioavailable silicon. Analysis conducted on oven-dried (40°C) soil sieved < 2mm by Environmental Analysis Laboratory, Southern Cross University, Australia. Specific methods described in Rayment and Lyons (2011).

Soil characteristic	values
pH	5.59
Bioavailable silicon (mg kg⁻¹)	8.7
Phosphorus (mg kg⁻¹)	3.6
Nitrate nitrogen (mg kg ⁻¹)	1.1
Ammonium nitrogen (mg kg ⁻¹)	0.33
Potassium (mg kg ⁻¹)	0.7
Total carbon (%)	0.11
Total nitrogen (%)	0.03
Calcium (mg kg ⁻¹)	15
Estimated organic matter (% OM)	0.20

Rayment GE, Lyons DJ (2011) Soil Chemical Methods - Australasia. Australian soil and land survey handbooks; vol 3. Accessed from <https://nla.gov.au/nla.cat-vn4854518>. CSIRO Publishing, Collingwood, VIC.

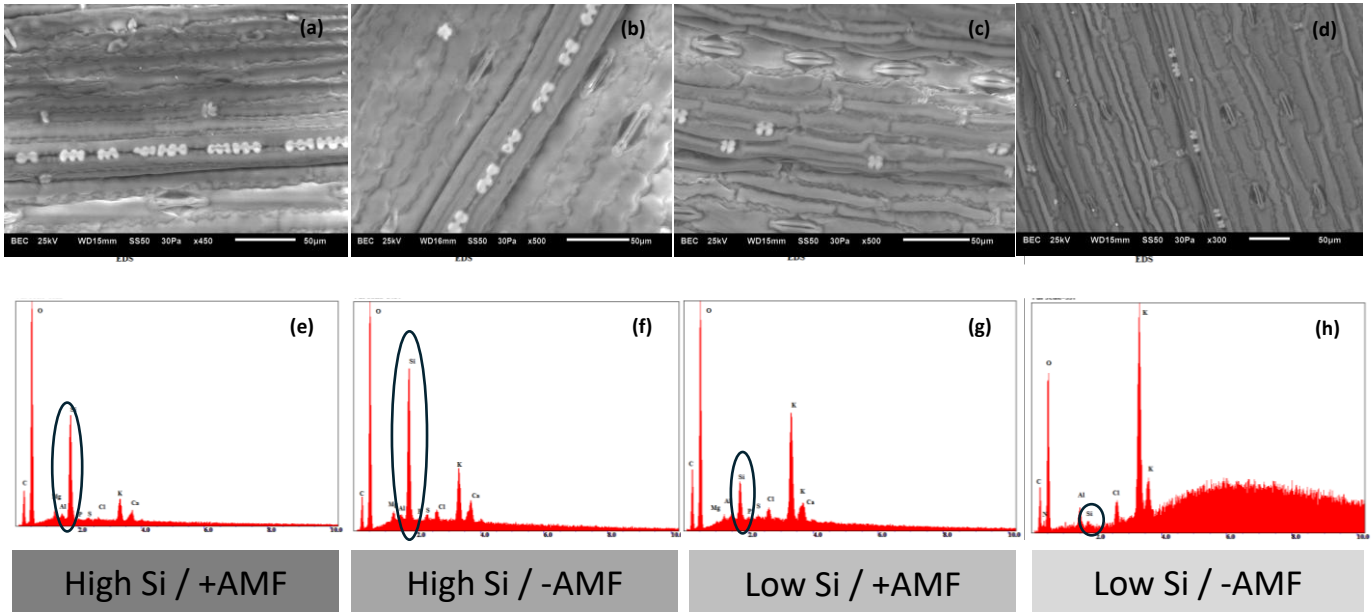


Figure S1. (a) – (d) SEM micrographs of maize leaf surface of the four treatment combinations (magnifications respectively x450, x500, x500, x300; a-d) and (e) – (h) Energy Dispersive Spectroscopy (EDS) graphs of element rich areas in maize leaves for the same treatments.

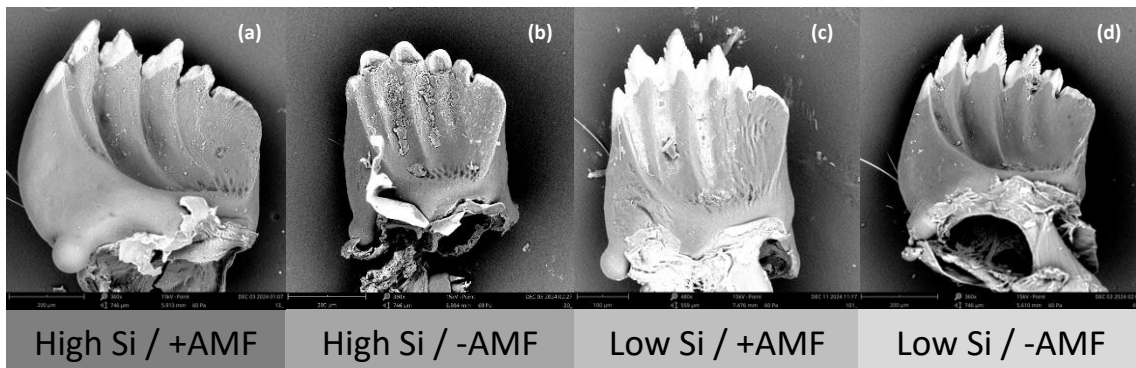


Figure S2. (a) – (d) Impact of Si and AM fungal treatments on *S. frugiperda* mandible wear. SEM images show the inner surface of the left mandible positioned facing upwards.